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**APPARATUS AND METHOD FOR ADJUSTING REAL TIME VIDEO TO
COMPENSATE FOR COLOR BLINDNESS**

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ABSTRACT OF THE DISCLOSURE

An apparatus and a method are provided for adjusting real time video to compensate for color blindness. A video system includes a decoder that receives and decodes a video signal into original color signals. A processor receives the original color signals and outputs color signals that are adjusted for compensating for a selected one of a number of

10 precharacterized types of color blindness. A screen receives the adjusted color signals and displays images adjusted from the original to compensate for the selected type of color blindness. The adjusted signals are derived from the original signals by one color gamut adjustment for each type of color blindness. The color gamut adjustments are generated by characterizing at least the known, major color deficiencies, and then generating color gamut

15 transforms to fit more range of actual color contrast within the range of perception of the color blind. Each transform is stored in a memory as a lookup table, and looked up by the processor. Software controls whether any color adjustment is to take place, and if so which one of the available mappings is to be used by showing a sample image for each one of the color transforms.

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